

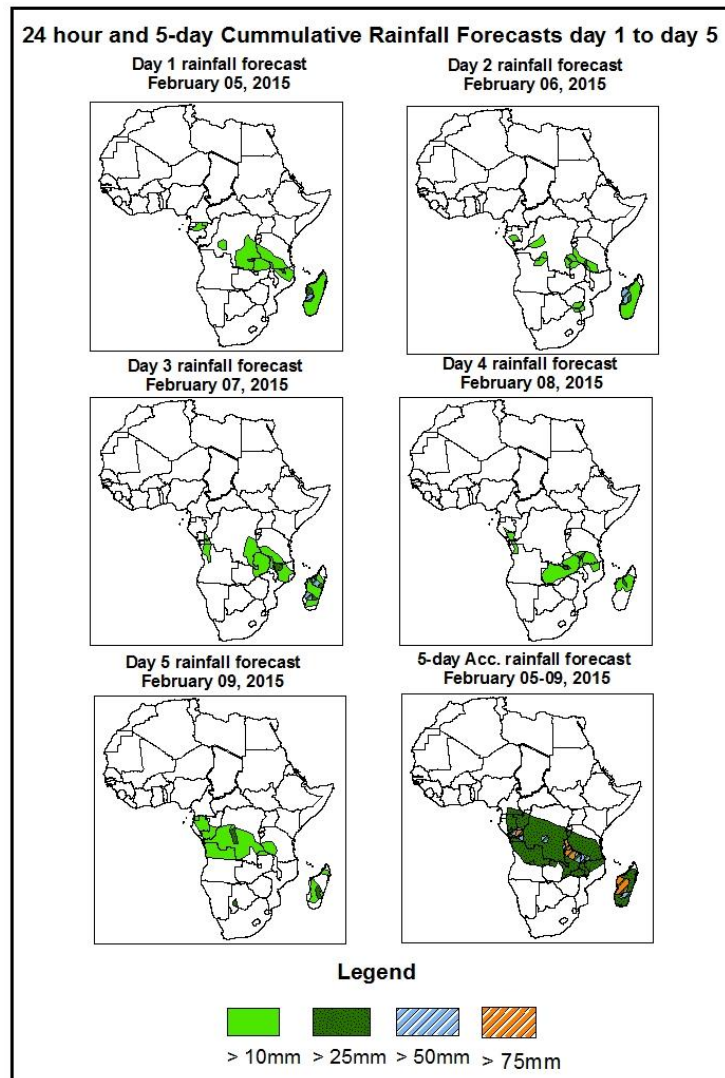


# NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

## 1. Rainfall Forecast: Valid 06Z of February 05 – 06Z of February 09, 2015. (Issued at 1830Z of February 04, 2015)

### 1.1. Twenty Four Hour Cumulative Rainfall Forecasts

The forecasts are expressed in terms of 75% probability of precipitation (POP) exceeded, based on the NCEP/GFS and the NCEP global ensemble forecasts system (GEFS) and expert assessment.

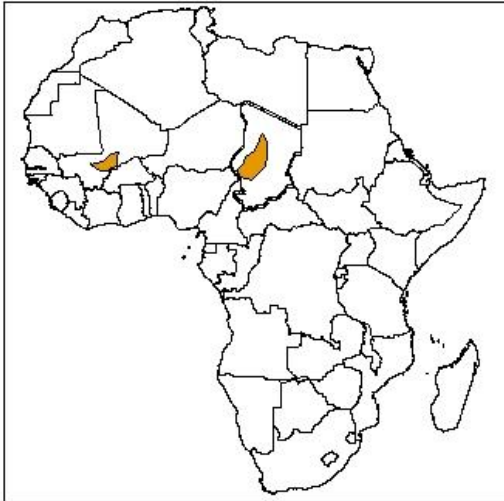


### Summary

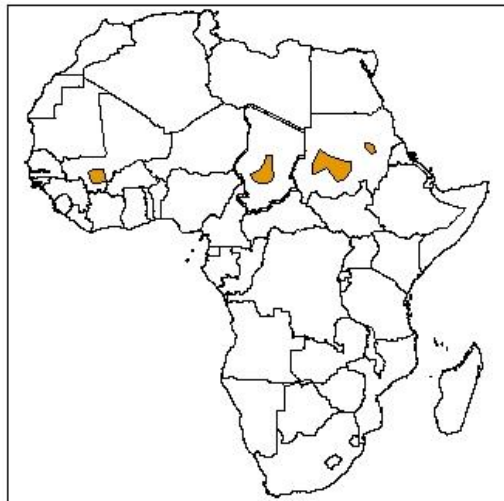
In the next five days, lower-level wind convergence in the region between Angola and Mozambique, the development of a low pressure system within the Mozambique Channel, is expected to enhance rainfall in these regions. There is an increased chance for heavy rainfall over C.A.R, Uganda, Burundi, Rwanda, Zambia, Tanzania, Malawi, Angola, Mozambique, Zimbabwe, DRC and Madagascar.

**Atmospheric Dust Forecasts, day 1 to day 3,**  
Moderate Dust Concentration (MDC) and High Dust Concentration (HDC)

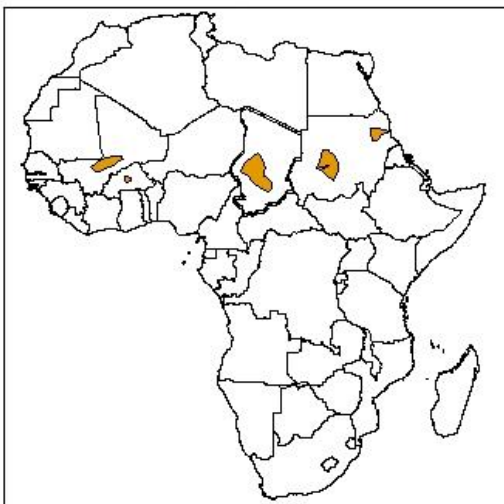
**Day 1 Dust forecast**  
February 05, 2015



**Day 2 Dust forecast**  
February 06, 2015



**Day 3 Dust forecast**  
February 07, 2015



**Highlights**

There is an increased chance for moderate to high dust concentration over several parts of the Sahel, and North Africa countries, with highest dust concentration expected over some parts of Mali, Chad, Burkina Faso and Sudan.

**Legend**



MDC, Vis. < 5km



HDC, Vis. < 1km

## **1.2. Model Discussion: Valid from 00Z of February 5, 2015**

The Azores high pressure system over the Northeast Atlantic Ocean is expected to strengthen from a central pressure value of 1034hpa to a central pressure value of 1042hpa during the forecast period, according to the GFS model.

The Arabian High Pressure system is expected to strengthen from a central pressure value of 1028hpa in 24 hours to 1033hpa in 120 hours during the forecast period, according to the GFS model.

The central pressure value of the Mascarene high pressure system over the southwestern Indian Ocean is expected to strengthen from 1025hpa in 24 hours to 1034hpa during the forecast period, according to the GFS model.

The St Helena high pressure system over the Southeast Atlantic Ocean is expected to weaken from a central pressure value of 1026hpa to 1023hpa in 120 hours, according to the GFS model.

The pressure value of the developing low pressure system within the Mozambique Channel is expected to deepen slightly from a central value of 1003hpa in 24 hours to 1002hpa in 120 hours, according to the GFS model.

At 925Hpa level, dry northeasterly to easterly wind (>20kts) is expected to prevail across much of the Sahel countries through 24 to 72 hours, and the intensity of the wind tends to weaken across the Northcentral and Northeastern regions of Africa, while remaining moderately strong across Northwestern Africa towards end of the forecast period.

At 850Hpa level, northeasterly wind is expected to prevail across Central and East African countries during the forecast period. Wind convergences are expected to remain active in Zambia, Malawi, Angola, CAR, Zimbabwe, Mozambique, DRC and Madagascar, during the forecast period. Zonally oriented wind convergence is expected to prevail in the region.

At 700hpa level, a trough is expected within the Mozambique Channel. A ridge over the Greater Horn of Africa is expected to prevail during the forecast period, according to the GFS model.

At 500Hpa, a trough associated with a mid-latitude frontal system is expected to prevail across eastern Mediterranean Sea. Divergence over the greater Horn of Africa countries will prevail in the region. Westerly wind flow over southern Africa and convergence within the Mozambique Channel will prevail towards the end of the forecast period, according to the GFS model.

In the next five days, lower-level wind convergence in the region between Angola and Mozambique, the development of a low pressure system within the Mozambique Channel, is expected to enhance rainfall in these regions. There is an increased chance for heavy rainfall over C.A.R, Uganda, Burundi, Rwanda, Zambia, Tanzania, Malawi, Angola, Mozambique, Zimbabwe, DRC and Madagascar.

## 2.0. Previous and Current Day Weather Discussion over Africa

(February 03, 2015 – February 04, 2015)

### 2.1. Weather assessment for the previous day (February 03, 2015)

Intense convective deep clouds were observed across Angola, southern Tanzania, Zambia, Congo Brazzaville, northern Malawi, Botswana, DRC and northern Mozambique, Gabon, Zimbabwe, Congo Brazzaville and some parts of Madagascar.

### 2.2. Weather assessment for the current day (February 04, 2015)

Intense convective deep clouds are over across Angola, southern Tanzania, Zambia, Malawi, , DRC, , Mozambique, Zimbabwe, Rwanda, Burundi, Gabon and some parts of Madagascar.

